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Abstract

Mini International Neuropsychiatric Interview approach to suicidality assessment relies upon a priori ordering of possible response profiles (*n*-tuples) that describe the presence/absence of five risk factors ('yes/no' response format). Conjunctive and disjunctive rules order the MINI's 5-tuples. Using 'recent suicide attempt' as a suicidality criterion, the present study aimed at (i) ordering the 4-tuples in the SMPG (Roelandt, Caria, & Mondière, 2000) sample of 39,617 French adults, and (ii) detecting the items, among 20 screening items used for Axis I diagnosis, that are informative for suicidality assessment. Three suicidality levels were identified. Co-occurrence of suicide ideation, self-harm intention, and lifetime suicide attempt forms a high risk condition: 44% of current month suicide, 95% confidence interval = [0.38, 0.50]. All suicidality levels were systematically moderated by chronic anxiety. This symptom should be included in the set of relevant risk factors for suicidality assessment.

*Keywords:* Chronic anxiety; Self-harm; Suicidality assessment; Suicide risk; Suicide attempt

## 1. Introduction

Suicide is one of the main causes of death around the world (Bertolote, Fleischmann, De Leo, & Wasserman, 2004), and the study of suicidal behaviors prevalence as well as suicide risk levels has been a part of several psychopathological surveys with nationally representative samples. Relying on the National Comorbidity Survey database, $N$ = 5,877, Kessler, Borges, and Walters (1999) report that 4.6% of individuals have made a suicide attempt at least once in their lifetime. L'abate (2011) reports that about one-third of individuals who attempted suicide repeated such an attempt within the following year, and about 10% of those who threaten or attempted suicide completed the suicidal act. In the European context, relying on the SMPG[1] survey database, Roelandt et al. (2000) highlight an 8% prevalence of life time suicide attempt and a 0.7% prevalence of suicide attempt with current month in the French general population.

Suicide risk assessment, in psychopathological research, consists in assessing the presence of risk factors through item responses, and the ordering of possible response profiles with respect to the suicidality construct. Thus each response profile is associated with a suicidality level. The ordering is based on a consensual approach: risk factors are selected by experts in the field and the assessment rationale can be summed up by "the more hits in the response profile, the more risky this profile". Such a rationale implies that the conjoint contribution of each risk factor to suicidality is not amenable to empirical investigation due to the lack of criterion.

The five-item suicidality module of the Mini International Neuropsychiatric Interview (MINI) has been used to establish risk levels in large samples from nationally representative surveys in France (SMPG database, $N$ = 39,617, Bellamy, Roelandt, Caria, & Kergall, 2005) and in China ( $N$ = 1,757, Chen et al., 2014), as well as in clinical samples of various psychopathological characteristics such as epileptic patients (Gandy et al., 2013), and

[1] La Santé Mentale en Population Générale (Mental Health in General Population).

postpartum women (Tavares et al., 2012). The assessment of suicidality through the five suicidality items of MINI is based on a set of conventional rules detailed in the Appendix. For example, if a participant reports to have had a suicide attempt in his lifetime along with suicidal ideation, then he is identified as a high risk person. A methodological consequence of this conventional approach is that the risk levels have no meaning in terms of criterion-related validation. In other words it is not clear that the term 'risk' refers to risk of what specific outcome.

The large size of the SMPG sample provides the opportunity to complement the conventional approach to suicidality assessment by using available evidence. The present study applies an evidence-based alternative to consensual suicidality assessment, which is based on criterion-related validation. Instead of using all risk factors to assign a suicidality level, one can select a proper criterion from the available descriptors, namely, *recent suicide attempt*. The proportion of this criterion can be examined conditionally to the response profiles that result from the remaining descriptors.

The terms 'risk', 'risk factors', and 'risk scale' may favor scientific miscommunication if they are used carelessly. Thus, before detailing the research objectives of the present study, it is helpful to clarify their meaning in this paper.

### 1.1. Risk, Risk Factor, and Risk Scale: Theory

In medical and epidemiological literature, the phrase 'risk of an (undesirable) outcome' (e.g., becoming ill or dying) refers to the outcome probability in a population of individuals who share a given characteristic (Kraemer & Kazdin, 1997). Let us consider the simple case of two conditions resulting from having or not having a characteristic. The presence or the absence of the characteristic raises the issue of whether the outcome probability depends on this characteristic (in which case one says that the characteristic moderates the outcome). If the

presence of this characteristic is associated with a higher probability, it is considered a 'risk factor' in the population.

As Kraemer & Kazdin (1997) mentioned, the manipulability of the characteristic is necessary for a causal interpretation of a risk factor. Considering the impossibility of manipulating some characteristic (e.g. suffering from a mental disorder), cross-sectional or longitudinal studies use the terms 'risk' and 'risk factor' to refer to statistical dependencies between a characteristic and a outcome without assuming causal dependencies.

It is common to consider the probability of an undesirable outcome with respect to more than one risk factor. A widespread intuition consists in assuming risk factors are "additive", that is, the more risk factors co-occur, the higher the risk. However, one ignores the "addition formula". Specifically, it can be expected that characteristics (or risk factors) are riskier when they co-occur. Thus, it is possible to estimate the outcome probability for each *compound* condition. In the case of $n$ risk factors, $2^n$ compound conditions have to be considered. In this perspective, a risk scale results from ordering of different compound conditions with respect to their respective outcome probabilities.

### 1.2. Risk, Risk Factor, and Risk Scale: Methodology

In risk assessment, the only accessible information is the frequency (or, equivalently, the proportion) of outcome in certain conditions. In order to establish a risk factor one has to compare the outcome frequencies in the samples corresponding to these conditions. Cohen's (1986) $h$ index of effect size is useful to decide whether the difference should be acknowledged or neglected.

When several risk factors are considered conjointly, in order to constitute a risk scale, one has to consider the outcome frequency with respect to each compound condition of characteristics. For example, four risk factors yield in $2^4 = 16$ compound conditions.

Furthermore, one aims at finding out an ordering of 16 conditions, relying upon the outcome frequencies in the corresponding samples.

As the liability of frequencies depends on sample sizes, a trade-off has to be found between both the number of conditions that can be distinguished and the sizes of the relevant samples. This issue is critical when the outcome prevalence is low. A possible strategy consists in considering the union of distinct conditions when their respective samples have a small size and exhibit similar outcome frequencies. Of course, the resulting ordering can be revised as far as the survey database can be updated.

### 1.3. Objectives

This study aims at supplementing the current rules of French MINI suicidality module listed in the Appendix, through an evidence-based approach that takes *recent suicide attempt* as the outcome. Moreover, it examines the *relevance* of additional characteristics—which are not comprised in the suicidality items. An additional characteristic is considered relevant if it systematically moderates the outcome probability once the suicidality conditions have been taken into account.

## 2. Method

### 2.1. Materials

The SMPG survey (Roelandt et al., 2000) consists of two main interviews. (i) A socio-demographic interview regarding gender, age, marital status, education, professional activity, income level, religious beliefs and practice, immigration, and country of origin. (ii) The 166-item version of the French MINI aims at assessing suicidality and the prevalence of psychiatric disorders. Lecrubier et al. (1997) and Sheehan et al. (1998) reported a high inter-rater agreement between the diagnosis proposed by MINI and the clinical diagnosis based on the fourth version of Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) or the tenth version of International Statistical Classification of Diseases (ICD-10).

The present study focuses on the information provided by the MINI. The MINI was designed as a brief structured interview for 12 Axis I psychiatric disorders with priority given to current diagnosis (161 items), along with five suicidality items. All items are to be answered in a 'yes' or 'no' format. Each of the 12 psychiatric disorders is evaluated with screening items. Negative answers to screening items necessarily rule out the diagnosis. Consequently, complete data is only available for the 20 screening items that are used for the 12 Axis I psychiatric disorders.

**2.2. Participants**

The SMPG survey consisted in interviewing a nationally representative sample of 39,617 respondents in 47 sites in France. In each site, approximately 900 participants were evaluated by nursing students using interviews mentioned above. The sample is composed of 54% women and 46% men, aged 18 and older ($M$ = 45, $SD$ = 18.3).

**1.3. Analyses**

The first part of this study focuses on the information provided by the suicidality items (as detailed in the Appendix). The subsequent part of this study uses the information provided by the 20 mandatory screening items. The current month suicide attempt was chosen as the outcome. Sixteen conditions were defined on the basis of the four remaining suicidality items, and the outcome frequency was computed in each condition. Then, the conditions were ordered on the basis of their frequencies. Given the low prevalence of this outcome, conditions of small sample sizes and similar outcome frequencies were aggregated.

In order to identify moderating additional characteristics, a two-step procedure was implemented. Firstly, the 20 screening items that exhibited an odds ratio higher than 2 were retained as potential moderator–an odds ratio strictly higher than one indicates that the outcome frequency when the characteristic is present is higher than the outcome frequency when the characteristic is absent. Secondly, the outcome frequency in each risk level of resulting

suicidality scale was conditioned to the presence/absence of the selected characteristic, in order to detect its potential moderator role. The difference between the resulting frequencies was normalized by using Cohen's (1986) *h* index of effect size. If the presence versus the absence of an additional characteristic changes the outcome frequency systematically, at least with a moderate effect size, this characteristic is considered as relevant.

## 3. Results

Overall, the ordering of the suicidality conditions suggested a three-level risk scale with respective frequencies of 44%, 20% and 0.02% of current month suicide attempt. Concerning the 20 additional characteristics (screening items), the data analysis revealed that excessive worry and chronic anxiety, a symptom of generalized anxiety disorder (GAD), is the unique risk factor that systematically moderates the outcome frequency.

### 3.1. Suicidality Items: Risk Scale

A total of 213 respondents reported a current month suicide attempt (0.68% of the total sample, which corresponds to 8.2% of annual suicide attempt rate). Respondents' age ranged between 18 and 68 years ($M$ = 37, $SD$ = 16.2). Fifty four percent of attempters were female.

Table 1 displays the ordered conditions formed with the four suicidality items. Two conditions with the highest frequencies, more than 40%, were aggregated in the high risk level (henceforth $R_1$). Likewise, three conditions presenting frequencies between 10% and 40% were aggregated in the moderate risk level (henceforth $R_2$), and the remaining 11 conditions with less than 10% were grouped in the low risk (henceforth $R_3$). The specific feature of the high risk condition ($R_1$) was the co-occurrence of self-harm desire ($C_2$), suicidal ideation ($C_3$), and lifetime suicide attempt ($C_5$). In the same way, co-occurrence of lifetime suicide attempt ($C_5$), with either self-injury ($C_2$) or suicidal ideation ($C_3$), but not both, specifies moderate risk ($R_2$). Figure 1 displays the resulting suicidality scale.

### 3.2. Selection of Additional Characteristics

Table 2 shows the 18 additional characteristics with odds ratios higher than 2. Odds ratios ranged between 2.4 and 15.6. Items comprised three depression items, one dysthymia, two maniac episodes in bipolar disorder, two agoraphobia and panic attack, one generalized anxiety, one Post Traumatic Stress Disorder (PTSD), one drug abuse, and seven current psychotic episode items.

### 3.3. Evaluation of the Moderator Role of Additional Characteristics

Given the presence versus the absence of each additional characteristic, each of the three suicidality conditions ($R_1$, $R_2$, $R_3$) was divided into two sub-conditions. Table 3 displays the observed effect sizes. According to Cohen (1986), effect sizes below 0.20, between 0.20 and 0.80, and over 0.80 are considered as small, moderate and large, respectively. Fifty three out of 54 *h* indexes fell in the small or moderate ranges and 39 were positive.

The item concerning excessive worry and chronic anxiety, a symptom of GAD, exhibited the highest effect sizes in all conditions (see Figure 2). In other words, the outcome frequencies are systematically changeable according to positive or negative response to the GAD item. In the $R_1$ condition, the outcome frequency switches from 4% to 46% when one considers the absence or the presence of chronic anxiety. In the $R_2$ and $R_3$ conditions, it increases from 3% to 19%, and from 0.01% to 3%, respectively.

## 4. Discussion

The literature on suicidality presents a long list of risk factors including socio-economic risk factors, proximal psychopathological risk factors in adults and adolescents, as well as distal risk factors, stressful life events and biological risk factors (for a review see Nock et al., 2008). The risk levels obtained from taking into account each risk factor separately are not as high as those found by a multi-characteristic approach. Using a single-characteristic approach, Zahl and Hawton (2004) found 6.9% of suicide in a sample of 11,583, repeated deliberate self-harmers. Nock, Hwang, Sampson, and Kessler (2010) reported 15.4% of suicide attempts in a

sample of 5,962 cases characterized by the presence of any mood disorder in the National Comorbidity Survey replication. The present study shows that 46.4% of individuals in a compound condition–defined by the co-occurrence of suicidal ideation, deliberate self-harm wish, life time suicide attempt, and chronic anxiety–reported a suicide attempt in the current month. This finding highlights the interest of a multi-characteristic approach for identifying high risk conditions. In the same vein, according to Baca-Garcia et al. (2011) in the National Epidemiologic Survey of Alcohol and Related Conditions (NESARC) database, $N$ = 43,093, 30% of 3,077participants characterized by the co-occurrence of desire for death and suicidal ideation reported a suicidal attempt. While the suicide attempt frequency is only 6% within the 542 suicidal ideators without the desire for death. To the best of our knowledge, no previous study on suicidality reports risk conditions as high as 46.4%.

This study, along with previous literature, shows that patients' chronic anxiety is a characteristic to take into account for suicidality assessment. Numerous authors (Borges et al., 2006; Fawcett, 2001; Nock et al., 2013) consider agitation and poor behavioral control as forms of chronic anxiety, and report them to be the correlates of a suicide attempt among suicidal ideators. These finding are consistent with the detection of chronic anxiety as a characteristic relevant to suicidality in the present study. Future large sample surveys interested in suicidality should include questions concerning chronic anxiety and examine its role in suicide attempts along with the other risk factors.

The risk scale obtained in the present study should be considered taking into account a main limitation. The risk scale cannot be used to estimate the probability that someone will attempt suicide. Even if the criterion had been, for example, suicide attempt *after* the characterization of individual's condition, the resulting frequencies cannot be individual probabilities (or propensities). To our knowledge, such propensities are not measurable

(although one can try to estimate them in the context of therapeutical or prevention decision making).

The current research contributes to clarify terms such as risk, risk factor, and risk scale, and demonstrates a simple methodology of data analysis to establish risk scales on the basis of available evidence in large data samples. Such an approach complements the traditional approach to risk assessment based on expert consensus. Further research could try to discover new characteristics to be added to five aforementioned items, in order to enhance or decrease the outcome frequency.

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Table 1

Ordered suicidality conditions and high ($R_1$), moderate ($R_2$), and low ($R_3$) risk aggregated conditions

| Condition | Number of outcome | Sample size of the condition | Proportion | 95% confidence interval |
|---|---|---|---|---|
| (~~$C_1$~~,$C_2$,$C_3$,$C_5$) | 15 | 33 | 0.455 | [0.285, 0.634] |
| ($C_1$,$C_2$,$C_3$,$C_5$) | 100 | 227 | 0.441 | [0.375, 0.508] |
| ($C_1$,~~$C_2$~~,$C_3$,$C_5$) | 36 | 152 | 0.237 | [0.173, 0.314] |
| ($C_1$,$C_2$, ~~$C_3$~~,$C_5$) | 4 | 25 | 0.160 | [0.053, 0.369] |
| (~~$C_1$~~,~~$C_2$~~,$C_3$,$C_5$) | 6 | 51 | 0.118 | [0.049, 0.246] |
| ($C_1$,$C_2$,$C_3$,~~$C_5$~~) | 8 | 141 | 0.057 | [0.027, 0.112] |
| (~~$C_1$~~,$C_2$,~~$C_3$~~,$C_5$) | 2 | 39 | 0.051 | [0.009, 0.186] |
| (~~$C_1$~~,$C_2$,$C_3$,~~$C_5$~~) | 1 | 33 | 0.030 | [0.002, 0.175] |
| ($C_1$,~~$C_2$~~,~~$C_3$~~,$C_5$) | 4 | 170 | 0.024 | [0.008, 0.063] |
| (~~$C_1$~~,~~$C_2$~~,~~$C_3$~~,$C_5$) | 25 | 1,785 | 0.013 | [0.008, 0.019] |
| ($C_1$,~~$C_2$~~,$C_3$,~~$C_5$~~) | 4 | 357 | 0.011 | [0.004, 0.030] |
| (~~$C_1$~~,$C_2$,~~$C_3$~~,~~$C_5$~~) | 1 | 113 | 0.009 | [0.001, 0.055] |
| (~~$C_1$~~,~~$C_2$~~,$C_3$,~~$C_5$~~) | 1 | 136 | 0.007 | [0.001, 0.046] |
| ($C_1$,~~$C_2$~~,~~$C_3$~~,~~$C_5$~~) | 1 | 929 | 0.001 | [0.001, 0.012] |
| (~~$C_1$~~,~~$C_2$~~,~~$C_3$~~,~~$C_5$~~) | 5 | 26,785 | 0.0001 | [0.000, 0.001] |
| ($C_1$,$C_2$,~~$C_3$~~,~~$C_5$~~) | 0 | 48 | 0.000 | [0.000, 0.092] |
| $R_1$ | 115 | 260 | 0.442 | [0.503, 0.382] |
| $R_2$ | 46 | 228 | 0.202 | [0.254, 0.150] |
| $R_3$ | 52 | 30,536 | 0.002 | [0.002, 0.001] |

*Note*. ($C_1$) positive response to the item concerning wish to be dead, ($C_2$) positive response to the item concerning intention towards harm hurt or to injure oneself, ($C_3$) positive response to the item concerning suicidal ideation,($C_5$) positive response to the item concerning lifetime suicide attempt,(~~C~~ )negative response to the item, (R1) high risk condition,(R2) moderate risk condition,( R3) low risk condition.

Table 2
Items presenting the highest odds ratios with recent suicide attempt

| Item | Question | OR | 95% confidence interval |
|---|---|---|---|
| Depression$_1$ | In the past two weeks, have you been much less interested in most things or much less able to enjoy the things you used to enjoy most of the time? | 15.68 | [15.96, 15.40] |
| Depression $_2$ | Have you been consistently depressed or down, most of the day, nearly every day, for the past two weeks? | 10.69 | [10.99, 10.41] |
| Panic Disorder | Have you, on more than one occasion, had spells or attacks when you suddenly felt anxious, frightened, uncomfortable or uneasy, even in situations where most people would not feel that way? | 8.18 | [8.45, 7.91] |
| Psychotic Disorder$_7$ | Have you ever heard things other people could not hear, such as voices? | 6.02 | [6.39, 5.65] |
| Dysthymia | Have you felt sad, low or depressed most of the time for the last two years? | 5.70 | [6.05, 5.35] |
| Psychotic Disorder $_6$ | Have you ever had visions when you were awake or have you ever seen things other people could not see? | 5.69 | [6.01, 5.38] |
| Psychotic Disorder $_2$ | Have you ever believed that people were spying on you, or that someone was plotting against you, or trying to hurt you? | 5.59 | [5.88, 5.32] |
| Depression $_3$ | Did you feel tired or without energy almost every day? | 5.47 | [5.75, 5.20] |
| Maniac Episode $_1$ | Have you ever had a period of time when you were feeling 'up' or 'high' or 'hyper' or so full of energy or full of yourself that you got into trouble or that other people thought you were not your usual self? | 4.49 | [4.77, 4.22] |
| Maniac Episode $_2$ | Have you ever been persistently irritable, for several days, so that you had arguments or verbal or physical fights, or shouted at people outside your family? | 4.34 | [4.62, 4.07] |
| Psychotic Disorder $_3$ | Have you ever believed that someone was reading your mind or could hear your thoughts, or that you could actually read someone's mind or hear what another person was thinking? | 3.96 | [4.28, 3.66] |
| Psychotic Disorder $_1$ | Have you ever had thoughts that your entourage considered strange or unusual, and they did not share with you? | 3.71 | [4.01, 3.42] |
| Generalized Anxiety | Have you worried excessively or been anxious about several things over the past 6 months? | 3.63 | [3.99, 3.28] |
| Psychotic Disorder $_4$ | Have you ever believed that someone or some force outside of yourself put thoughts in your mind that were not your own, or made you act in a way that was not your usual self? Have you ever felt that you were possessed? | 3.31 | [3.68, 2.93] |
| Psychotic Disorder $_5$ | Have you ever believed that you were being sent special messages through the TV, radio, or newspaper, or that a person you did not personally know was particularly interested in you? | 3.19 | [3.68, 2.71] |
| Drug Absue | In the past 12 months, did you take any drugs more than once, to get high, to feel better, or to change your mood? | 3.04 | [3.34, 2.74] |
| Agoraphobia | Do you feel anxious or uneasy in places or situations where you might have a panic attack or the panic-like symptoms we just spoke about, or where help might not be available or escape might be difficult: like being in a crowd, standing in a line (queue)? | 3.01 | [3.28, 2.74] |
| PTSD | Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual or threatened death or serious injury to you or someone else? | 2.43 | [2.71, 2.17] |

Table 3

*h* index of the difference between current month suicide attempt percentages given positive or negative answer to the selected screening items

| Item | *h* (% suicide attempt in 'item = no' condition, % suicide attempt in 'item = yes' condition) | | | *h* index | | |
|---|---|---|---|---|---|---|
| | $R_1$ | $R_2$ | $R_3$ | Min | Max | Average |
| Generalized Anxiety | 1.08 (4.3, 46.4) | 0.7 (2.9, 18.8) | 0.32 (0.0, 3.0) | 0.70 | 1.08 | 0.32 |
| Psychotic Disorder $_2$ | 0.17 (41.2, 49.5) | 0.34 (15.6, 29.7) | 0.07 (0.1, 0.5) | 0.19 | 0.34 | 0.07 |
| Depression $_2$ | 0.26 (35.7, 48.3) | 0.03 (19.6, 20.6) | 0.12 (0.1, 0.8) | 0.13 | 0.26 | 0.03 |
| Psychotic Disorder $_6$ | 0.05 (43.6, 46.2) | 0.27 (17.8, 29.2) | 0.07 (0.1, 0.5) | 0.13 | 0.27 | 0.05 |
| Panic Disorder | 0.29 (38.1, 52.2) | -0.1 (21.7, 17.6) | 0.11 (0.1, 0.8) | 0.10 | 0.29 | -0.1 |
| Maniac Episode $_1$ | 0.08 (42.5, 46.5) | 0.16 (18, 24.4) | 0.06 (0.1, 0.4) | 0.10 | 0.16 | 0.06 |
| Depression $_1$ | -0.03 (45.5, 43.8) | 0.24 (14.1, 23.3) | 0.07 (0.1, 0.5) | 0.09 | 0.24 | -0.03 |
| Psychotic Disorder $_3$ | -0.11 (45.6, 40) | 0.27 (17.7, 28.8) | 0.08 (0.1, 0.6) | 0.08 | 0.27 | -0.11 |
| Psychotic Disorder $_4$ | 0.05 (43.6, 46.2) | 0.12 (19.4, 24.3) | 0.04 (0.2, 0.4) | 0.07 | 0.12 | 0.04 |
| Psychotic Disorder $_1$ | 0.12 (42.4, 48.2) | -0.02 (20.1, 19.2) | 0.04 (0.1, 0.3) | 0.05 | 0.12 | -0.02 |
| Drug Abuse | -0.02 (44.6, 43.5) | 0.09 (19.3, 22.8) | 0.02 (0.2, 0.2) | 0.03 | 0.09 | -0.02 |
| Psychotic Disorder $_7$ | -0.07 (44.7, 41.5) | 0.03 (19.6, 20.9) | 0.11 (0.1, 0.9) | 0.03 | 0.11 | -0.07 |
| Maniac Episode $_2$ | 0.09 (41.7, 46) | -0.06 (21.2, 18.7) | 0.05 (0.1, 0.4) | 0.03 | 0.09 | -0.06 |
| Depression $_3$ | -0.04 (45.6, 43.5) | -0.01 (20.4, 20) | 0.07 (0.1, 0.4) | 0.01 | 0.07 | -0.04 |
| Psychotic Disorder $_5$ | 0.26 (43.4, 56.3) | -0.37 (21.5, 8.7) | 0.11 (0.1, 0.8) | 0.00 | 0.26 | -0.37 |
| PTSD | 0.05 (43, 45.3) | -0.12 (22.5, 17.6) | 0.04 (0.1, 0.3) | -0.01 | 0.05 | -0.12 |
| Agoraphobia | -0.12 (47.2, 41.5) | -0.09 (21.7, 18.2) | 0.04 (0.1, 0.3) | -0.06 | 0.04 | -0.12 |
| Dysthymia | -0.25 (50.9, 38.5) | -0.14 (21.3, 15.8) | 0.07 (0.1, 0.4) | -0.11 | 0.07 | -0.25 |

*Note. h* index is negative if the outcome frequency is higher in the negative answer condition.

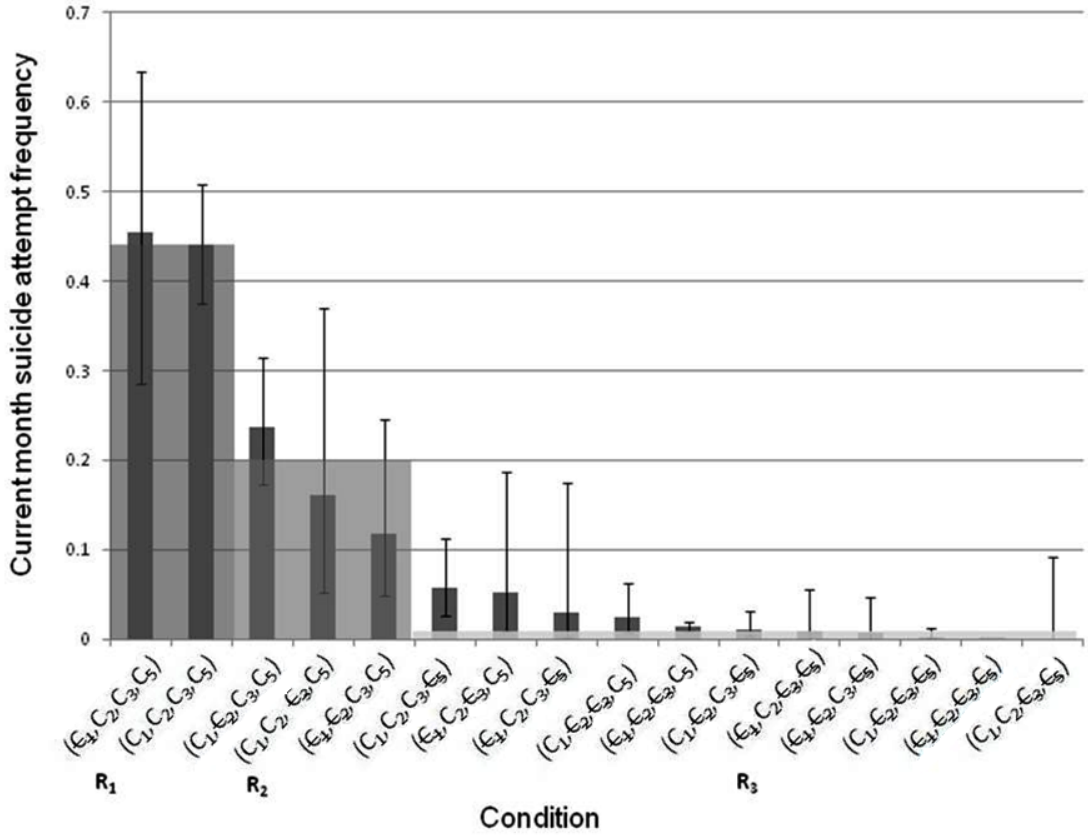


*Figure 1*. Conditions formed by suicidality items with confidence intervals, ordered from high to low risk

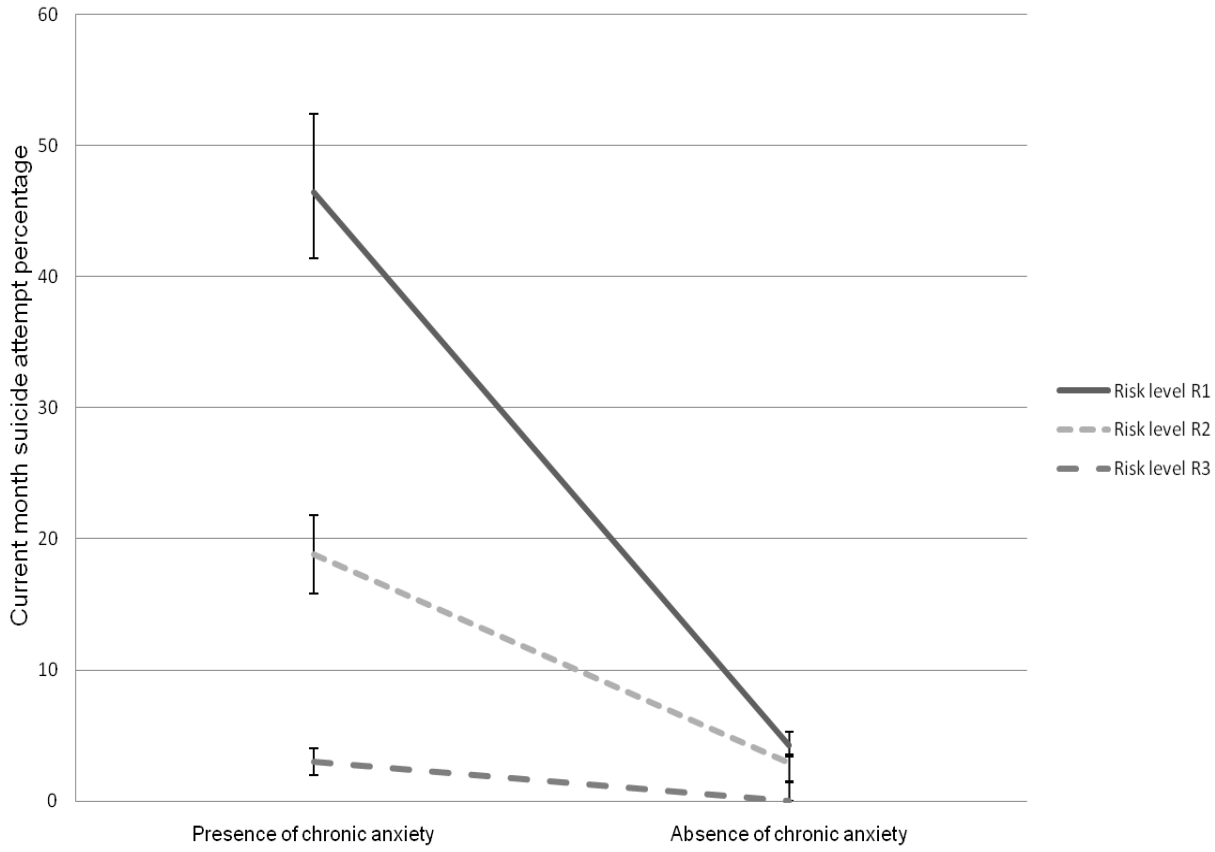


*Figure 2.* Percentage of current month suicide attempt in the presence and in the absence of chronic anxiety with 95% confidence intervals

# Appendix

## MINI Suicidality Items

In the current month:

1. $C_1$: Did you think that would be better off dead or wish you were dead? yes/no
2. $C_2$: Did you wish to harm or hurt or injure yourself? yes/no
3. $C_3$: Did you think about suicide? yes/no
4. $C_4$: Did you attempt suicide? yes/no

In your lifetime:

5. $C_5$: Had you ever make a suicide attempt in your life? yes/no

These items are intended to confer a suicidality-status to anyone who is able to answer the relevant items, through the following aggregation rules of the item responses.

- If $C_1$ or $C_2$ or $C_5$ is answered yes, then 'low risk'.
- If $C_3$ or ($C_2$ and $C_5$) is answered yes, then 'average risk'.
- If $C_4$ or ($C_3$ and $C_5$) is answered yes, then 'high risk'.
- If all of the items are answered no, then 'no risk'.

Twenty four out of 32 possible response profiles fulfill more than one risk level. For example, the profile 11101, which means that all items except for $C_4$ were answered 'yes', corresponds to the high risk level, as items $C_3$ and $C_5$ are responded 'yes', and to the low risk level, as items $C_1$ or $C_2$ or $C_3$ are responded 'yes'. Thus, a meta-rule is needed to choose the unique risk level. This rule could be "if the profile has several risk levels, then choose the highest".